

BEACON Report No. 2056

PASSIVE SOIL-GAS SURVEY EAST 67TH STREET GROUNDWATER PLUME ODESSA, TX

Prepared for

**EA Engineering Science & Technology
405 S Highway 121
Building C, Suite 100
Lewisville, TX 75067**

by



**Beacon Environmental Services, Inc.
323 Williams Street
Suite D
Bel Air, MD 21014**

February 19, 2008

Applying Results from Soil-Gas Surveys

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source. The vapor-phase is merely a fractional trace of the source, so, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

The critical fact is that, whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling at one or two points that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating the required ratio. Once that ratio is established, it can be used in conjunction with the soil-gas measurements (regardless of the units adopted) to estimate subsurface contaminant concentrations across the survey field. It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have significant impact on soil-gas measurements at those locations.

When passive soil-gas surveys are handled in this way, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent.

BEACON Report Number: 2056

**Passive Soil-Gas Survey
East 67th Street Groundwater Plume
Odessa, TX**

This Passive Soil-Gas Survey Report has been prepared for EA Engineering Science & Technology (EA) by Beacon Environmental Services, Inc. (BEACON) in accordance with the terms of Laboratory Service Order# 5466, dated January 11, 2008. BEACON's principal technical contact at EA for this project has been Mr. Timothy Startz.

1. Objectives

Soil-gas samples were collected to determine the presence, identity, and relative strength of targeted contaminants in ground water at the East 67th Street Groundwater Plume site. Survey results will be used to determine the distribution of contaminants and to guide further site investigation.

2. Target Compounds

This survey targeted the 40 compounds listed in **Table 1**, which supplies the resulting laboratory data in nanograms (ng) of specific compound per cartridge.

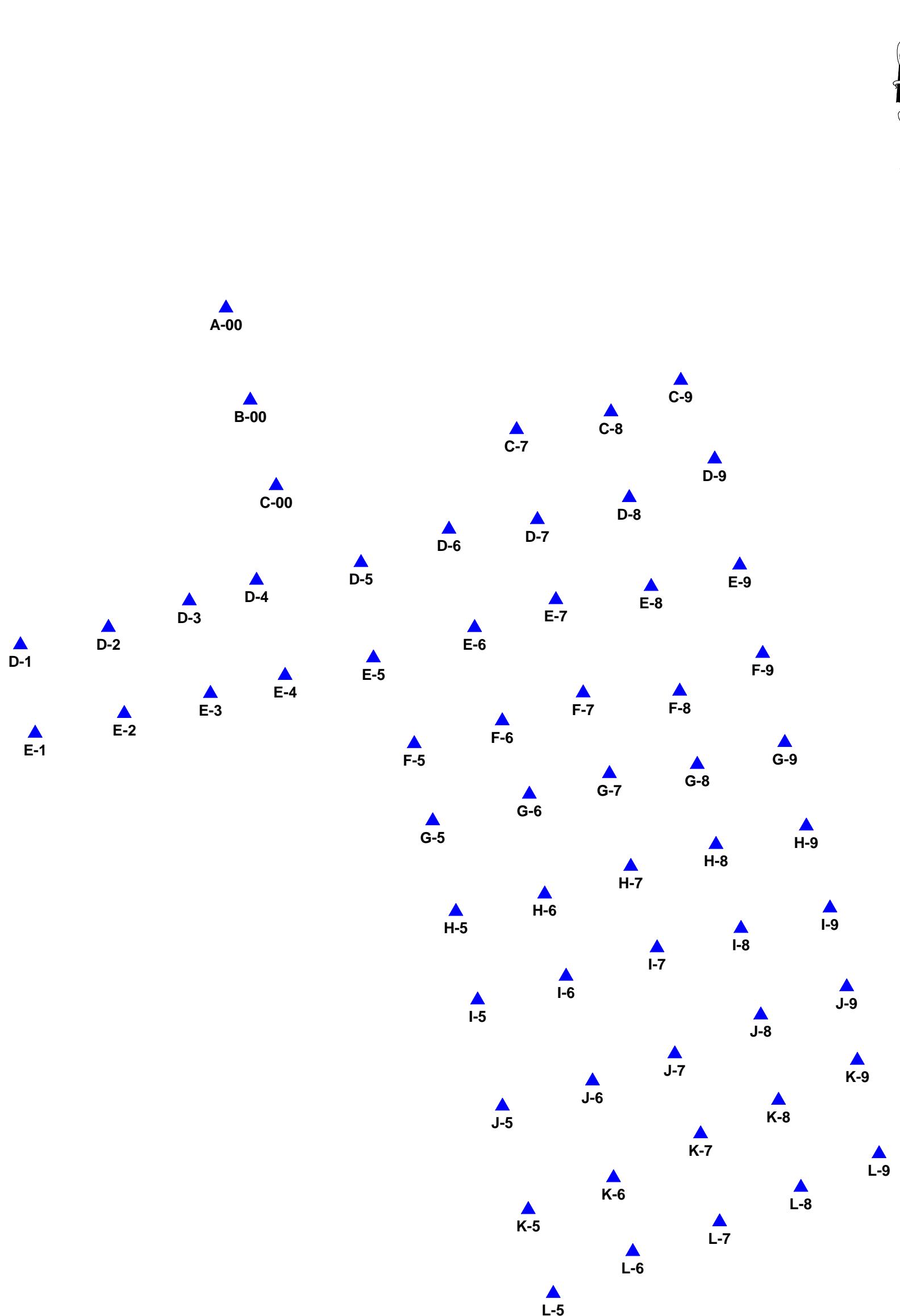
3. Survey Description

No. of Field Samples:	59
No. of Duplicate Field Samples:	3
No. of Trip Blanks:	<u>3</u>
Total No. of Samples:	65

Field sample locations are shown on **Figure 1**.

4. Field Work

EA was provided a BESURE Sample Collection Kit™ with the equipment needed to conduct a 59-point passive soil-gas survey. Samplers were deployed on January 23, 2008, and were retrieved on January 30, 2008. **Attachment 1** describes the field procedures used. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 2**).



G-7 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet



Figure 1
Passive Soil-Gas Survey
Sample Locations

5. Analysis and Reporting Dates

BEACON's laboratory received 65 samples for analysis on January 31, 2008. Adsorbent cartridges from the passive samplers were thermally desorbed, then analyzed using gas chromatography/mass spectrometry (GC/MS) equipment, in accordance with EPA Method 8260B (Modified), as described in **Attachment 3**. BEACON's laboratory analyzed each cartridge for the targeted compounds; analyses were completed on February 2, 2008. Following a laboratory review, results were provided to EA on February 6, 2008.

6. Report Notes and Quality Assurance/Quality Control Factors

Table 1 provides survey results in nanograms per cartridge by sample-point number and compound name. The quantitation levels represent values above which quantitative laboratory results can be achieved within specified limits of precision and with a high degree of confidence. The quantitation level for each compound, therefore, provides a reliable basis for comparing the relative strength of any detection of that compound.

Data Compatibility. It is important to note that when sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are often significantly higher than the concentrations would be if the surfacing were not present. Thus, a reading taken below or near an impermeable surface is much higher than it would be in the absence of such a cap. Therefore, the sample location conditions should be evaluated when comparing results between locations.

The **Chain-of-Custody** form, which was shipped with the samples for this survey, is supplied as **Attachment 4**.

Laboratory QA/QC procedures included standards, surrogates, and blanks appropriate to EPA Method 8260 (Modified). Field work, analyses, and reporting were done in accordance with BEACON's Quality Assurance Program Plan.

QA/QC Contaminant Corrections. Following EPA guidelines, laboratory data are not corrected for method blank or trip blank sample contamination values; any contamination detected on QA/QC samples is reported in **Table 1**.

Laboratory method blanks are run each day with project samples to identify contamination present in the laboratory. If contamination is detected on a method blank, measurements of identical compounds on samples analyzed the same day are considered to be suspect and are flagged in the laboratory report. The laboratory method blanks analyzed in connection with the present samples revealed no contamination.

The **trip blank** is a sampling cartridge prepared, transported, and analyzed with other samples but intentionally not exposed. Any target compounds identified on the trip blanks are reported in the laboratory data. The analyses of the trip blanks (labeled Trip-1 through Trip-3 in **Table 1**) reported 39 nanograms of Toluene on Trip-2. No other compounds were identified on the trip blanks, indicating that except for the lower level measurements of Toluene, the survey site itself is the source of detected contamination.

Duplicates. BEACON's passive soil-gas samplers are prepared with two sets of cartridges for subsequent duplicate or confirmatory sample analysis. At EA's request, duplicate analysis was performed for samples D-6, F-7, and L-8. The duplicate samples were designated with "DUP" following the sample number (*e.g.*, D-6 DUP). Because of finite differences between the cartridges, and the random nature of diffusive particle movement, comparisons between duplicates and primary samples should be made on a qualitative basis, as quantitative results may be subject to random distortions. However, when comparing quantitative results, a duplicate correspondence should be considered when the relative percent difference (RPD) between the two samples is less than or equal to 100%. Also, for the purpose of calculating correspondences, all non-detections should be assigned, as a baseline value, the quantitation level for the specific contaminant. Based on these assumptions, a 99% correlation was found between the duplicate samples and their base samples.

Survey findings are relative exclusively to this project and should not routinely be compared with results of other BEACON Surveys. *To establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those detections representing significant subsurface contamination, BEACON recommends the guidelines on the inside front cover of this report.*

At the request of EA, the following compound distribution maps have been provided:

Figure 2 — cis-1,2-Dichloroethene

Figure 3 — Trichloroethene

Figure 4 — Tetrachloroethene

Figure 5 — Total Trimethylbenzenes

Figure 6 — Total Petroleum Hydrocarbons (TPH), C₅-C₉

BEACON ENVIRONMENTAL SERVICES, INC.

Passive Soil-Gas Survey

East 67th Street Groundwater Plume

Odessa, TX

The following **Attachments** are included:

- 1- Field Procedures
- 2- Field Deployment Report
- 3- Laboratory Procedures
- 4- Chain-of-Custody Form

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	Meth_Blk	Trip-1	A-00	B-00	C-00	C-7
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013104	08013105	08013106	08013107	08013108	08013109
Received Date:		1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Time:	13:03	13:34	14:05	14:36	15:06	15:36
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	90	36	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	160	50	<25
cis-1,2-Dichloroethene	<25	<25	<25	1,295	505	<25
Chloroform	<25	<25	<25	75	32	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	29
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	246	441	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	1,194
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	240	1,690	811	321
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	201
p & m-Xylene	<25	<25	<25	<25	<25	421
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	270
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	57
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	207
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	9,549
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	6,646

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 1 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	C-8	C-9	D-1	D-2	D-3	D-4
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013110	08013111	08013112	08013113	08013114	08013115
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Time:	16:06	16:36	17:07	17:37	18:08	18:38
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	28	93	276	54
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	65	278	349	117
cis-1,2-Dichloroethene	<25	<25	448	3,176	5,150	537
Chloroform	<25	<25	178	233	360	60
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	35	686	382
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	2,246	9,065	6,540	1,356
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	76	38	62	427	3,672	626
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	548	2,709	1,277	578
p & m-Xylene	<25	<25	930	3,629	1,913	1,033
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	543	3,789	1,238	645
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	190	49	32
1,3,5-Trimethylbenzene	<25	<25	103	799	172	125
1,2,4-Trimethylbenzene	<25	<25	426	3,516	704	539
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	17,125	137,569	43,481	23,841
TPH C ₁₀ -C ₁₄	3,013	<2,500	11,078	98,820	16,917	12,789

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 2 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	D-5	D-6	D-6 DUP	D-7	D-8	D-9
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013116	08013117	08013118	08013119	08013120	08013121
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Time:	19:09	19:39	20:09	20:40	21:10	21:40
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	37	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	79	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	216	<25	<25	<25	<25	<25
Chloroform	25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	27	<25	<25	<25	33
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	140	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	702	1,691	2,057	4,527	164	106
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	1,351	315	394	94	30	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	74	209	228	1,019	<25	<25
p & m-Xylene	153	483	472	1,961	41	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	99	470	407	2,059	28	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	26	<25	78	<25	<25
1,3,5-Trimethylbenzene	26	257	113	463	<25	<25
1,2,4-Trimethylbenzene	101	1,185	338	1,735	30	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	3,402	18,787	16,322	66,130	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	32,740	12,009	46,809	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 3 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	E-1	E-2	E-3	E-4	Trip-2	E-5
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013122	08013123	08013124	08013125	08013126	08013127
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	2/1/2008	2/1/2008
Analysis Time:	22:11	22:41	23:12	23:42	12:13	12:43
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	33	64	<25	<25	<25
1,1-Dichloroethene	<25	<25	81	<25	<25	<25
trans-1,2-Dichloroethene	<25	236	511	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	285	685	<25	<25	<25
cis-1,2-Dichloroethene	<25	4,197	7,153	<25	<25	<25
Chloroform	<25	111	919	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	40	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	56	314	28	<25	38
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	83	7,853	2,465	10,225	39	1,558
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	427	4,488	637	<25	501
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	2,070	682	4,972	<25	145
p & m-Xylene	<25	2,798	1,143	6,408	<25	284
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	2,668	675	7,126	<25	184
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	153	30	305	<25	<25
1,3,5-Trimethylbenzene	<25	597	116	1,471	<25	41
1,2,4-Trimethylbenzene	<25	2,996	530	5,655	<25	142
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	82,613	17,555	226,199	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	59,163	11,324	159,063	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 4 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	E-6	E-7	E-8	E-9	F-5	F-6
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013128	08013129	08013130	08013131	08013132	08013133
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	1:13	1:44	2:14	2:45	3:15	3:46
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	888	825	1,686	<25	1,847	448
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	311	1,024	87	77	367	473
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	188	110	392	<25	264	134
p & m-Xylene	457	248	802	<25	404	254
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	383	196	577	<25	188	148
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	188	93	98	<25	<25	40
1,2,4-Trimethylbenzene	867	374	320	60	49	169
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	10,180	6,170	18,940	<2,500	8,715	4,891
TPH C ₁₀ -C ₁₄	18,719	9,165	8,282	<2,500	<2,500	4,458

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 5 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	F-7	F-7 DUP	F-8	F-9	G-5	G-6
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013134	08013135	08013136	08013137	08013138	08013139
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	4:16	4:47	5:18	5:48	6:19	6:50
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	4,030	3,081	3,272	<25	723	3,814
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	698	578	49	159	483	345
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	890	773	504	<25	145	719
p & m-Xylene	1,509	1,353	954	<25	244	1,394
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	1,309	1,171	580	<25	123	1,563
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	81	82	<25	<25	<25	135
1,3,5-Trimethylbenzene	338	373	72	<25	<25	813
1,2,4-Trimethylbenzene	1,425	1,715	253	<25	30	3,678
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	60,755	55,118	12,300	<2,500	2,903	71,177
TPH C ₁₀ -C ₁₄	48,161	51,345	4,833	<2,500	<2,500	111,432

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 6 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	G-7	G-8	G-9	H-5	H-6	H-7
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013140	08013141	08013142	08013143	08013144	08013145
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	7:20	7:51	8:22	8:53	9:24	9:55
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	2,393	328	<25	2,488	102	941
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	249	144	245	334	28	65
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	626	67	<25	380	<25	268
p & m-Xylene	1,212	128	<25	735	<25	600
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	1,042	80	<25	479	<25	504
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	72	<25	<25	<25	<25	35
1,3,5-Trimethylbenzene	412	35	<25	77	<25	243
1,2,4-Trimethylbenzene	2,180	190	<25	271	<25	1,188
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	42,094	<2,500	<2,500	13,021	3,505	17,525
TPH C ₁₀ -C ₁₄	63,595	7,982	<2,500	8,162	<2,500	34,532

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 7 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	H-8	Trip-3	Meth_Blk	H-9	I-5	I-6
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08013146	08013147	08020103	08020104	08020105	08020106
Received Date:	1/31/2008	1/31/2008		1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	10:26	10:57	13:16	13:47	14:18	14:49
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	1,096	<25	<25	<25	1,880	684
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	68	<25	<25	<25	66	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	476	<25	<25	<25	283	233
p & m-Xylene	917	<25	<25	<25	610	519
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	639	<25	<25	<25	785	460
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	32	<25	<25	<25	73	40
1,3,5-Trimethylbenzene	184	<25	<25	<25	622	287
1,2,4-Trimethylbenzene	847	<25	<25	<25	3,164	1,427
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	27	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	11,236	<2,500	<2,500	<2,500	37,899	14,583
TPH C ₁₀ -C ₁₄	12,989	<2,500	<2,500	<2,500	89,499	38,221

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 8 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	I-7	I-8	I-9	J-5	J-6	J-7
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08020107	08020108	08020109	08020110	08020111	08020112
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	15:20	15:51	16:22	16:53	17:24	17:55
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	702	144	174	112	124	184
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	180	36	48	36	46	57
p & m-Xylene	358	70	111	66	80	108
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	262	47	87	50	55	104
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	108	<25	27	<25	<25	<25
1,2,4-Trimethylbenzene	542	60	112	51	38	76
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	6,570	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	16,068	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 9 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	J-8	J-9	K-5	K-6	K-7	K-8
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08020113	08020114	08020115	08020116	08020117	08020118
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008
Analysis Time:	18:26	18:57	19:28	19:59	20:29	21:00
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	2,512	<25	1,116	146	312	1,514
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	714	<25	208	<25	41	476
p & m-Xylene	1,331	<25	430	29	63	923
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	1,040	<25	300	<25	33	643
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	57	<25	<25	<25	<25	34
1,3,5-Trimethylbenzene	229	<25	84	<25	<25	170
1,2,4-Trimethylbenzene	934	44	333	<25	<25	760
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	21,681	<2,500	5,568	<2,500	<2,500	11,550
TPH C ₁₀ -C ₁₄	17,313	<2,500	7,578	<2,500	<2,500	20,193

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 10 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	K-9	L-5	L-6	L-7	L-8	L-8 DUP
Project Number:	2056	2056	2056	2056	2056	2056
Lab File ID:	08020119	08020120	08020121	08020122	08020123	08020124
Received Date:	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008	1/31/2008
Analysis Date:	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/1/2008	2/2/2008
Analysis Time:	21:31	22:02	22:33	23:04	23:35	12:06
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	1,741	238	422	2,372	1,528
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	149	66	248	530	430
p & m-Xylene	<25	204	145	464	964	822
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	85	134	288	697	561
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	158	34	30
1,3,5-Trimethylbenzene	<25	<25	42	59	169	167
1,2,4-Trimethylbenzene	38	<25	190	226	722	772
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	4,573	<2,500	6,167	13,381	10,804
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	4,934	15,686	15,663

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 11 of 12

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

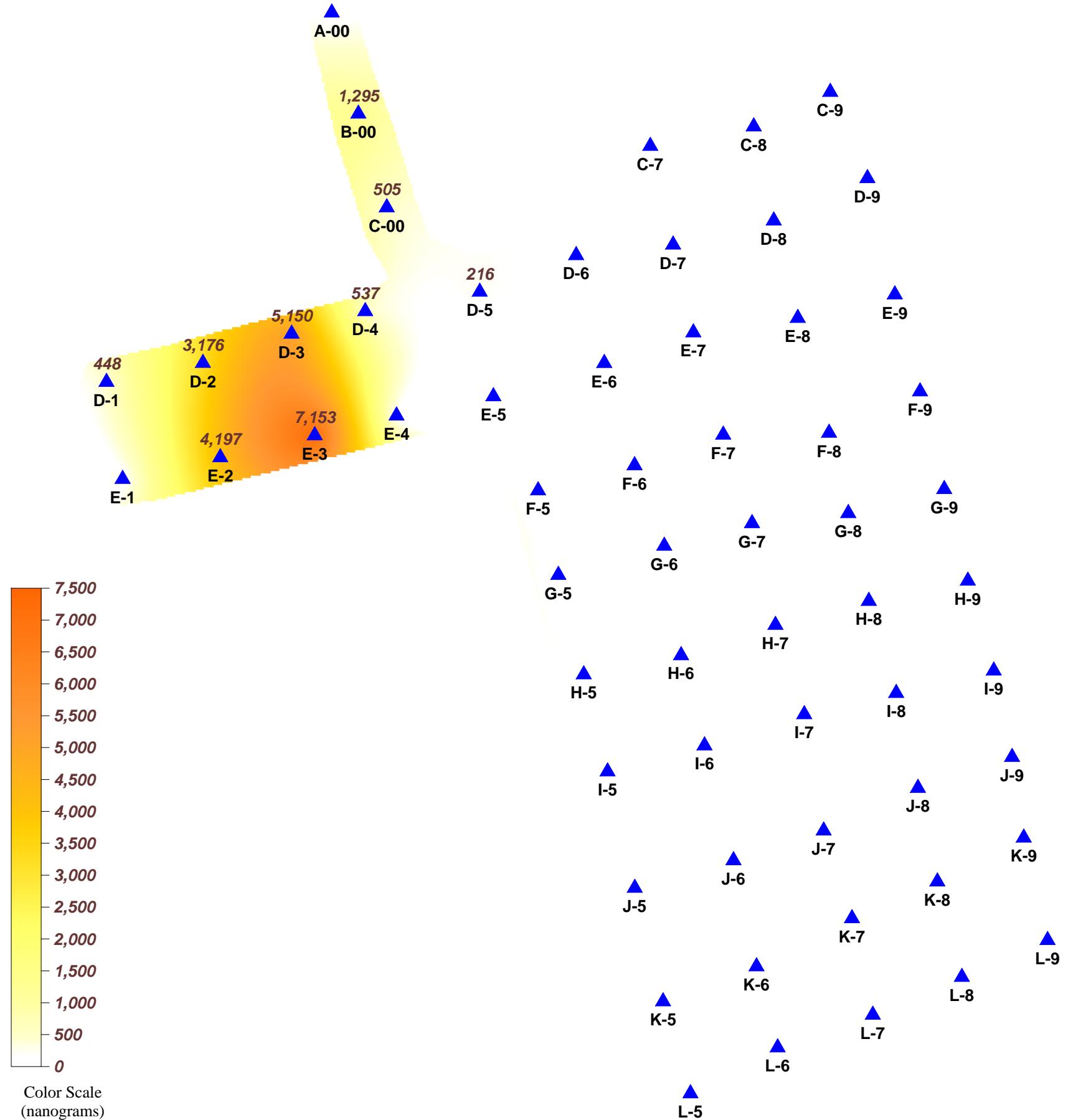
Client Sample ID:	L-9
Project Number:	2056
Lab File ID:	08020125
Received Date:	1/31/2008
Analysis Date:	2/2/2008
Analysis Time:	12:37
Units:	ng

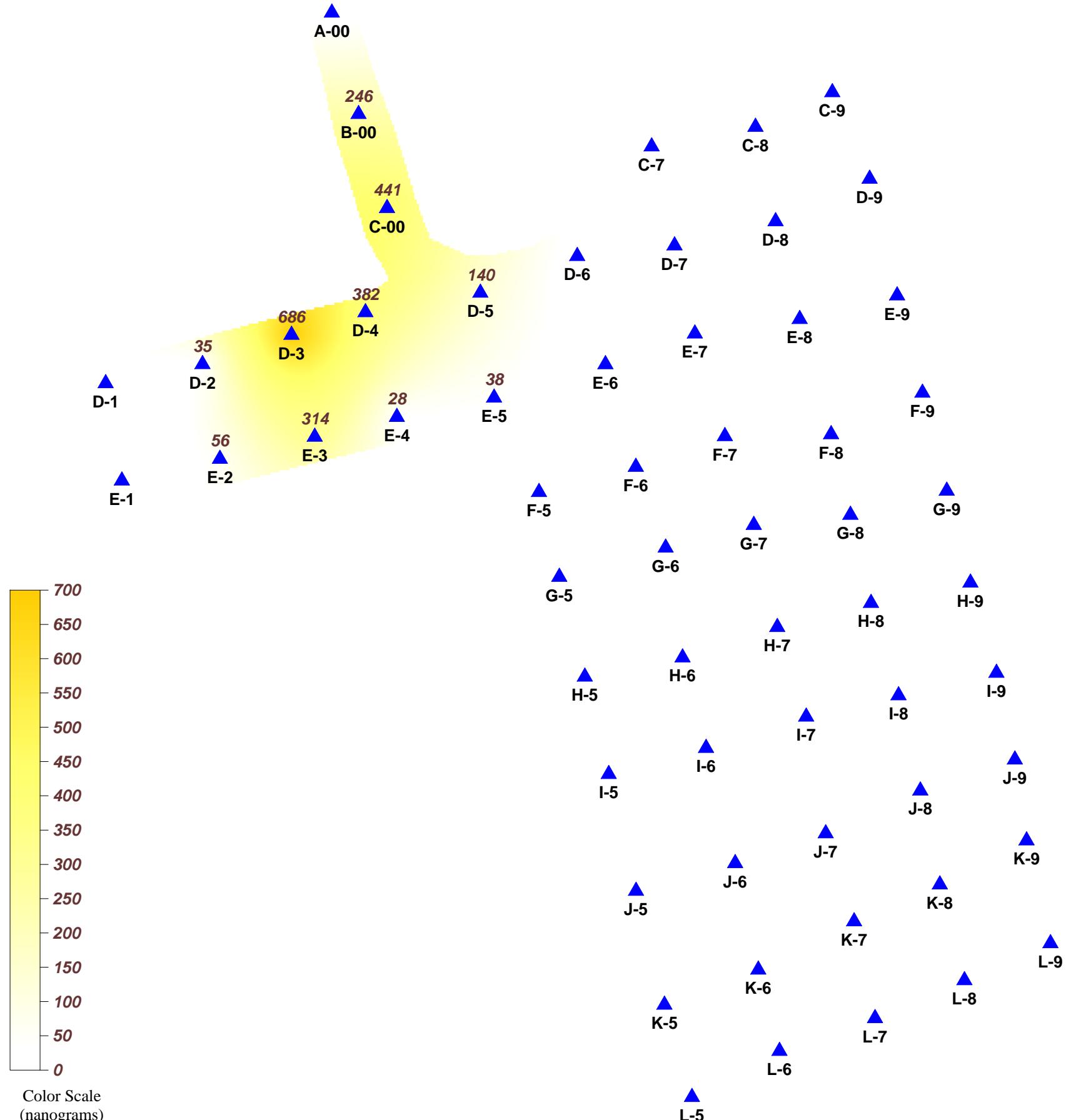
COMPOUNDS

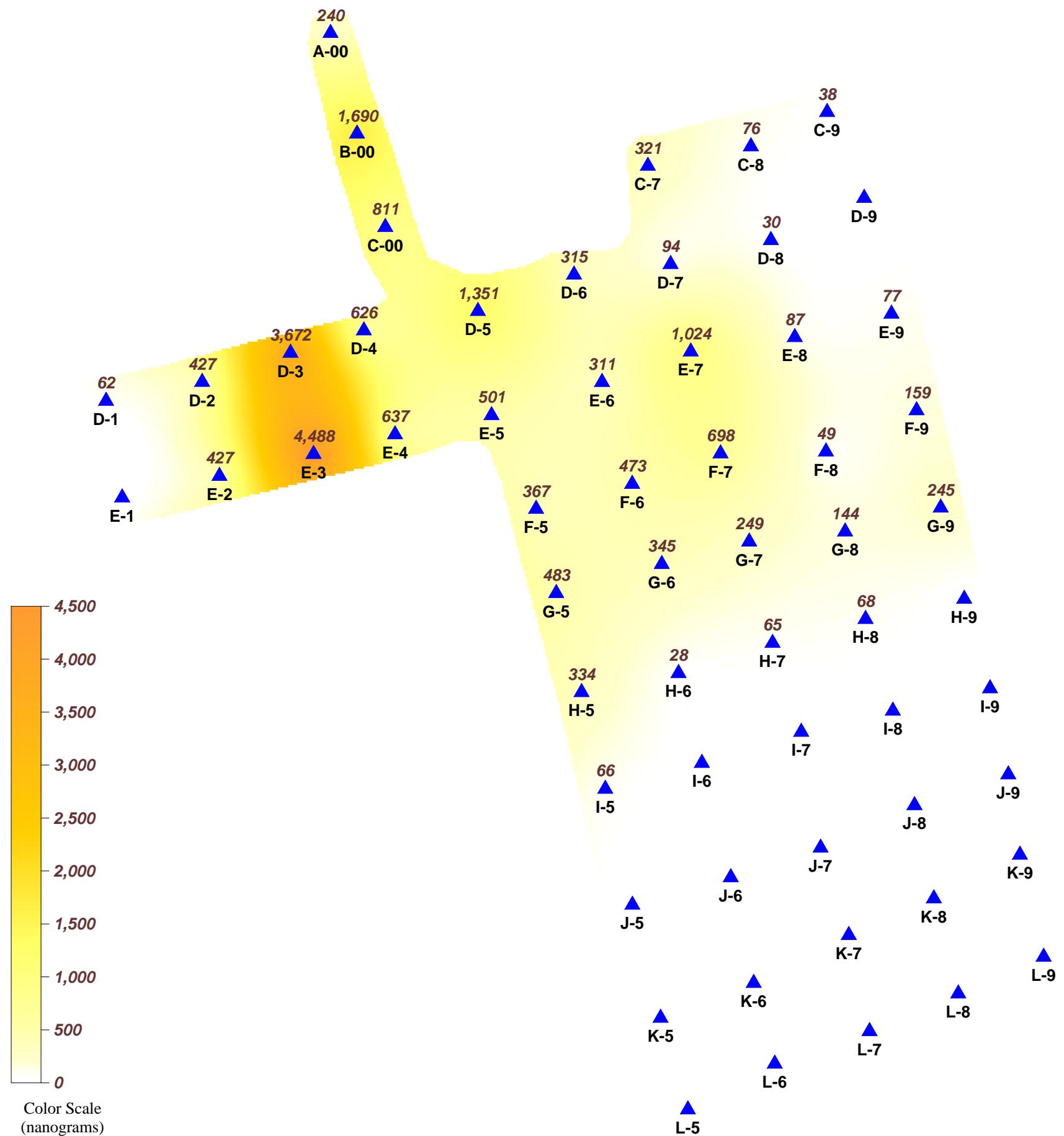
Vinyl Chloride	<25
1,1-Dichloroethene	<25
trans-1,2-Dichloroethene	<25
Methyl-t-butyl ether	<25
1,1-Dichloroethane	<25
cis-1,2-Dichloroethene	<25
Chloroform	<25
2,2-Dichloropropane	<25
1,2-Dichloroethane	<25
1,1,1-Trichloroethane	<25
1,1-Dichloropropene	<25
Carbon Tetrachloride	<25
Benzene	<25
1,2-Dichloropropane	<25
Trichloroethene	<25
1,1,2-Trichloroethane	<25
Toluene	<25
1,3-Dichloropropane	<25
1,2-Dibromoethane (EDB)	<25
Tetrachloroethene	<25
1,1,1,2-Tetrachloroethane	<25
Chlorobenzene	<25
Ethylbenzene	<25
p & m-Xylene	<25
Bromoform	<25
1,1,2,2-Tetrachloroethane	<25
o-Xylene	28
1,2,3-Trichloropropane	<25
Isopropylbenzene	<25
1,3,5-Trimethylbenzene	<25
1,2,4-Trimethylbenzene	39
1,3-Dichlorobenzene	<25
1,4-Dichlorobenzene	<25
1,2-Dichlorobenzene	<25
n-Butylbenzene	<25
1,2,4-Trichlorobenzene	<25
Naphthalene	<25
1,2,3-Trichlorobenzene	<25
TPH C ₅ -C ₉	<2,500
TPH C ₁₀ -C ₁₄	<2,500

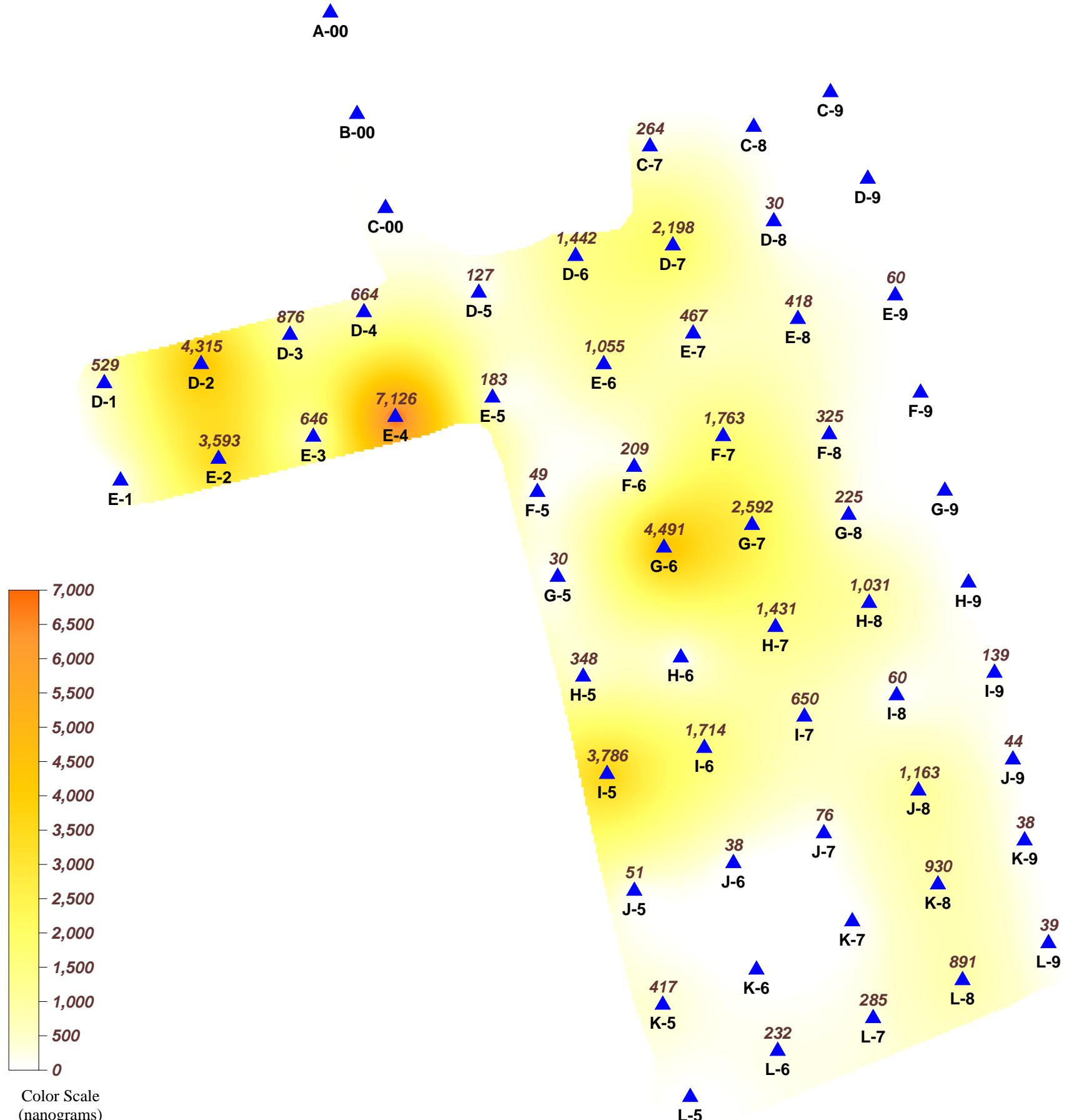
Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 12 of 12









1,000 TOTAL TRIMETHYLBENZENES (nanograms)

G-7 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet

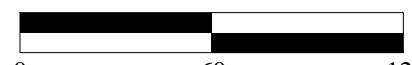
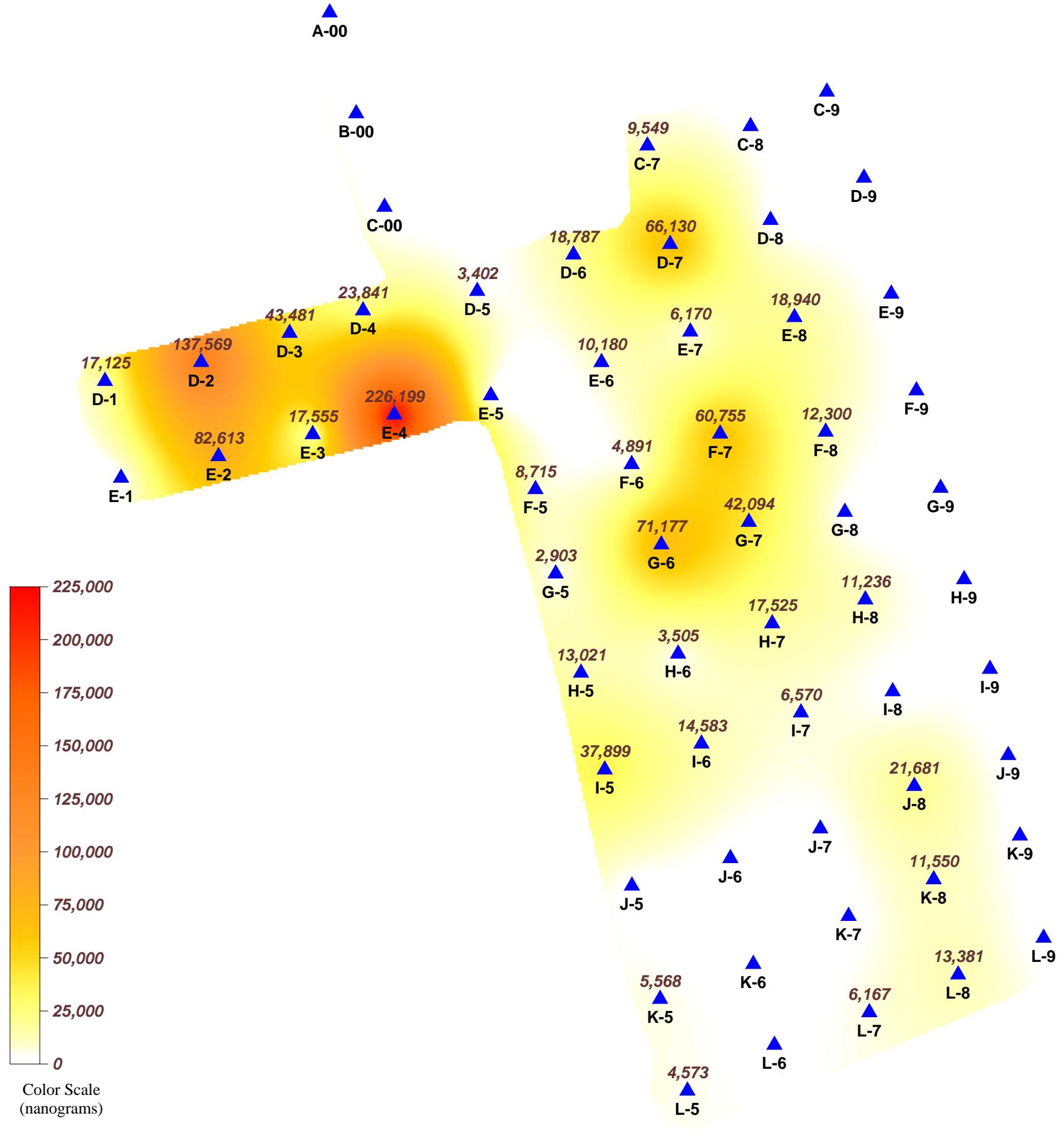


Figure 5
Passive Soil-Gas Survey
Total Trimethylbenzenes

East 67th Street Groundwater Plume
Odessa, TX



Attachments

Attachment 1

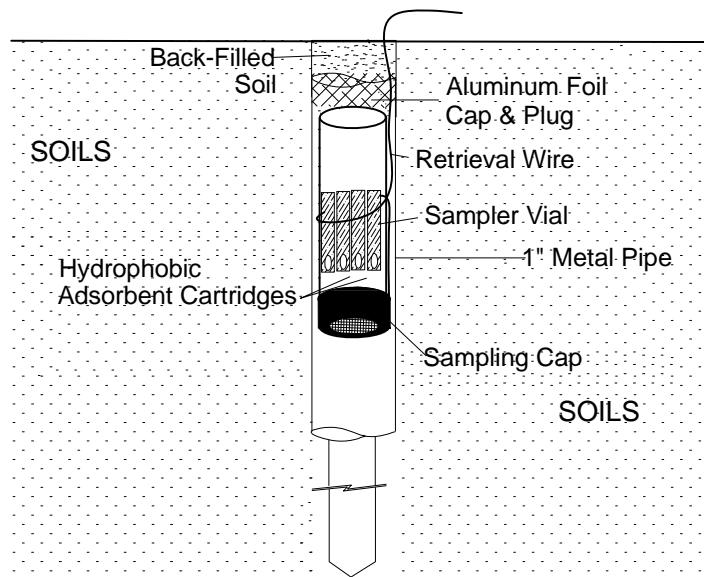
FIELD PROCEDURES FOR PASSIVE SOIL-GAS SURVEYS

The following field procedures are routinely used during a BEACON Passive Soil-Gas Survey. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

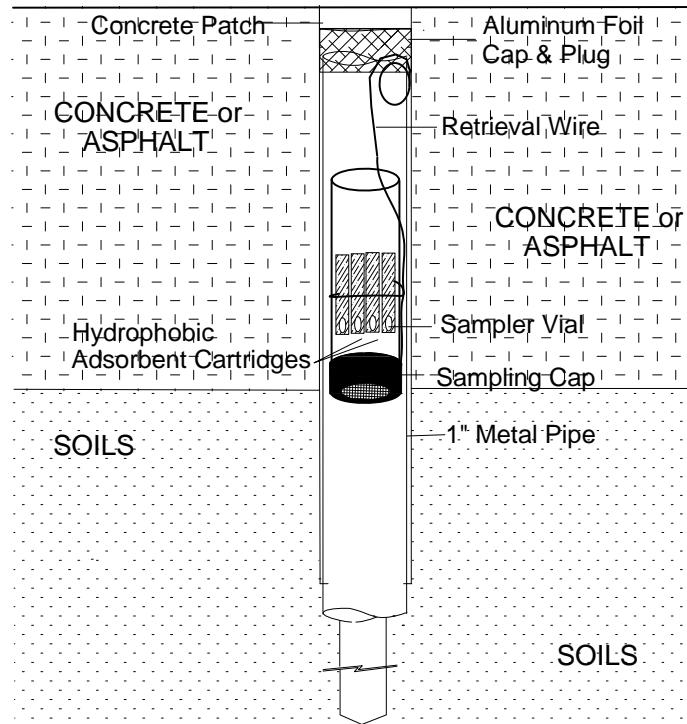
- A. Field personnel carry a BESURE Sample Collection Kit™ and support equipment to the site and deploy the passive samplers in a prearranged survey pattern. A passive sampler consists of a glass vial containing hydrophobic adsorbent cartridges with a length of wire attached to the vial for retrieval. Although samplers require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Sampler emplacement generally takes less than two minutes.
- B. At each survey point a field technician clears vegetation as needed and, using a slide hammer with a ½" diameter probe or a hammer drill with a ½" diameter bit, creates a hole three-feet deep. The technician then uses a hammer and a ¾" diameter pointed metal stake to widen the top four inches of the hole. [Note: For locations covered with asphalt, concrete, or gravel surfacing, the field technician first drills a 1"- to 1½"-diameter hole through the surfacing to the soils beneath and the hole is sleeved with a 1"-diameter . metal sleeve.]
- C. The technician then removes the solid plastic cap from a sampler and replaces it with a Sampling Cap (a plastic cap with a hole covered by screen meshing). The technician inserts the sampler, with the Sampling Cap end facing down, into the hole (see **attached figure**). The sampler is then covered with either local soils for uncapped locations or, for capped locations, aluminum foil and a concrete patch. The sampler's location, time and date of emplacement, and other relevant information are recorded on the Field Deployment Form.
- D. One or more trip blanks are included as part of the quality-control procedures.
- E. Once all the samplers have been deployed, field personnel schedule sampler recovery and depart, taking all other equipment and materials with them.
- F. Field personnel retrieve the samplers at the end of the exposure period. At each location, a field technician withdraws the sampler from its hole, removes the retrieval wire, and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.
- G. Sampling holes are refilled with soil, sand, or other suitable material. If samplers have been installed through asphalt or concrete, the hole is filled to grade with a plug of cold patch or cement.
- H. Following retrieval, field personnel ship or transport the passive samplers to BEACON's laboratory.

BEACON'S PASSIVE SOIL-GAS SAMPLER

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 2

Field Deployment Report

**PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT**

Project Information	
Beacon Project No.:	2056
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	<u>Garrett Steinbring</u>

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
	Time Emplaced	Time Retrieved	
D-1	0834	1007	18", steel tube, foil plug
D-2	0839	1015	
E-2	0844	1028	
E-1	0847	1031	10", No tube
E-3	0852	1026	
E-4	0855	1023	No tube
D-3	0859	1018	
D-4	0901	1030	
A-00	0922	1037	
B-00	0924	1039	
C-00	0926	1041	
D-5	0929	1043	
E-6	0935	1051	
D-6	0939	1053	
F-5	0943	1048	

**PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT**

Project Information	
Beacon Project No.:	2056
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



325 Williams Street, Suite D, Bel Air, MD 21014 (800) 475-5510

Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	Garnett Steinbring

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
	Time Emplaced	Time Retrieved	
F-6	0949	1053	
F-7	0951	1113	
E-7	0959	1107	
D-7	1003	1109	
-E-7	1007	1055	
-C-8	1017	1057	
-C-9	1021	1059	
-D-8	1023	1102	
-E-8	1026	1105	
-D-9	1029	1100	
E-9	1034	1104	
F-9	1037	1120	
G-9	1039	1119	
H-9	1041	1022	
I-9	1043	1022	

**PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT**

Project Information	
Beacon Project No.:	2056
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



**BEACON
ENVIRONMENTAL
SERVICES, INC.**
323 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510

Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	<i>Garnett Sternbring</i>

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
	Time Emplaced	Time Retrieved	
I-8	1045	1145	
H-8	1047	1143	
G-8	1049	1117	
F-8	1053	1114	
I-7	1218	1146	
H-7	1221	1141	
G-7	1223	1116	
I-6	1226	1138	
I-5	1230	1137	10", No tube
H-6	1233	1139	
G-6	1238	1130	
G-5	1241	1132	
H-5	1244	1135	
J-8	1250		No tube
K-8	1252	1154	No tube

**PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT**

Project Information	
Beacon Project No.:	2056
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



**BEACON
ENVIRONMENTAL
SERVICES, INC.**

323 Williams Street, Suite D, Bel Air, MD 21014 (800) 873-5118

Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	Garrett Stembry

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
	Time Emplaced	Time Retrieved	
L-8	1255	1153	No tube, 1 ft from several drums of trans oil.
L-7	1259	1158	
K-7	1301	1159	
J-7	1304	1200	14", No tube
J-6	1306	1208	
J-5	1309	1208	
K-S	1311	1205	
L-5	1315	1203	
L-6	1317	1202	
K-6	1320	1204	
L-9	1324	1151	No tube
K-9	1327	1149	
J-9	1330	1148	
E-S	1339	1046	

Attachment 3

LABORATORY PROCEDURES FOR PASSIVE SOIL-GAS SAMPLES

Following are laboratory procedures used with BEACON Passive Soil-Gas Surveys, a screening technology for expedited site investigation. After exposure, adsorbent cartridges from the passive samplers are analyzed using U.S. EPA Method 8260B as described in the Solid Waste Manual (SW-846), a capillary gas chromatographic/mass spectrometric method, modified to accommodate high temperature thermal desorption of the adsorbent cartridges. This procedure is summarized as follows:

- A. The adsorbent cartridges are loaded with internal standards and surrogates prior to loading the autosampler with the cartridges. The loaded cartridges are purged in a helium flow. Then the cartridges are thermally desorbed in a helium flow onto a focusing trap. Any analytes in the helium stream are adsorbed onto a focusing trap.
- B. Following trap focusing, the trap is thermally desorbed onto a DB-VRX 60m, 0.25 mm ID, 1.40 micron filament thickness capillary column.
- C. The GC/MS is scanned between 35 and 270 Atomic Mass Units (AMU) at 3.12 scans per second.
- D. BFB tuning criteria and the initial five-point calibration procedures are those stated in method SW846-8260B. System performance and calibration check criteria are met prior to analysis of samples. A laboratory method blank is analyzed after the daily standard to determine that the system is contaminant-free.
- E. The instrumentation used for these analyses includes:
 - Agilent 6890-5973 Gas Chromatograph/Mass Spectrometer;
 - Markes Unity thermal desorber;
 - Markes UltraA autosampler; and
 - Markes Mass Flow Controller Module.

Attachment 4

Chain-of-Custody Form

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information		Client Information	
Beacon Project No.:	2056	Company Name:	EA Engineering Science & Tech.
Site Name:	E. 67 th St. Groundwater Plume	Office Location:	Lewisville, TX
Site Location:	Odessa, TX	Samples Submitted By:	<i>Garrett Steinbring</i>
Analytical Method:	EPA Method 8260B	Contact Phone No.:	214-934-4375
Target Compounds:	Beacon Project Number 2056 Target Compound List		

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
A-00	2056	A-00			
B-00	2056	B-00			
C-00	2056	C-00			
C-7	2056	C-7			
C-8	2056	C-8			
C-9	2056	C-9			
D-1	2056	D-1			
D-2	2056	D-2			
D-3	2056	D-3			
D-4	2056	D-4			
D-5	2056	D-5			
D-6, D-6 DUP	2056	D-6, 2056 D-6 DUP	DUP		
D-7	2056	D-7			
D-8	2056	D-8			
D-9	2056	D-9			
E-1	2056	E-1			
E-2	2056	E-2			
E-3	2056	E-3			
E-4	2056	E-4			
E-5	2056	E-5			

Shipment of Field Kit to Site — Custody Seal # 0528729

Intact? N

Relinquished by: <i>Ryan Scheid</i>	Date/Time 01-16-2008 / 1700	Courier FedEx	Received by: <i>JH</i>	Date/Time 1/22/08 0600
--	--------------------------------	------------------	---------------------------	---------------------------

Shipment of Field Kit to Laboratory — Custody Seal # 0528737

Intact? N

Relinquished by: <i>JH</i>	Date/Time 1/30/08 1306	Courier FedEx	Received by: <i>Ryan Scheid</i>	Date/Time 1-31-2008 / 10:00
-------------------------------	---------------------------	------------------	------------------------------------	--------------------------------

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information		Client Information	
Beacon Project No.:	2056	Company Name:	EA Engineering Science & Tech.
Site Name:	E. 67 th St. Groundwater Plume	Office Location:	Lewisville, TX
Site Location:	Odessa, TX	Samples Submitted By:	Gerritt Steinbrueg
Analytical Method:	EPA Method 8260B	Contact Phone No.:	214-934-4175
Target Compounds:	Beacon Project Number 2056 Target Compound List		

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)		
		Condition of sample or vial	Date	Time
E-6	2056	E-6		
E-7	2056	E-7		
E-8	2056	E-8		
E-9	2056	E-9		
F-5	2056	F-5		
F-6	2056	F-6		
F-7, F-7 DUP	2056	2056 F-7, 2056 F-7 DUP	DUP	
F-8	2056	F-8		
F-9	2056	F-9		
G-5	2056	G-5		
G-6	2056	G-6		
G-7	2056	G-7		
G-8	2056	G-8		
G-9	2056	G-9		
H-5	2056	H-5		
H-6	2056	H-6		
H-7	2056	H-7		
H-8	2056	H-8		
H-9	2056	H-9		
I-5	2056	I-5		

Shipment of Field Kit to Site — Custody Seal # 0528729

Intact? N

Relinquished by: <i>Ryan Schiel</i>	Date/Time 01-16-2008 / 1700	Courier FedEx	Received by: <i>[Signature]</i>	Date/Time 1/22/08 0600
--	--------------------------------	------------------	------------------------------------	---------------------------

Shipment of Field Kit to Laboratory — Custody Seal # 0528737

Intact? N

Relinquished by: <i>[Signature]</i>	Date/Time 1/30/08 1306	Courier FedEx	Received by: <i>Ryan Schiel</i>	Date/Time 1-31-2008 / 10:00
--	---------------------------	------------------	------------------------------------	--------------------------------

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES



Project Information	
Beacon Project No.:	2056
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 2056 Target Compound List

Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Submitted By:	Garnett Stembring
Contact Phone No.:	214-934-4275

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
I-6	2056	I-6			
I-7	2056	I-7			
I-8	2056	I-8			
I-9	2056	I-9			
J-5	2056	J-5			
J-6	2056	J-6			
J-7	2056	J-7			
J-8	2056	J-8			
J-9	2056	J-9			
K-5	2056	K-5			
K-6	2056	K-6			
K-7	2056	K-7			
K-8	2056	K-8			
K-9	2056	K-9			
L-5	2056	L-5			
L-6	2056	L-6			
L-7	2056	L-7			
L-8, L-8 DUP	2056	L-8, 2056 L-8 DUP	DVA		
L-9	2056	L-9			

Shipment of Field Kit to Site — Custody Seal # 0528729

Relinquished by:	Date/Time	Courier	Intact? <input checked="" type="checkbox"/> N	Received by:	Date/Time
Ryan Scheel	01-16-2008 / 1700	FedEx		<i>[Signature]</i>	1/22/08 0600

Shipment of Field Kit to Laboratory — Custody Seal # 0528737

Relinquished by:	Date/Time	Courier	Intact? <input checked="" type="checkbox"/> N	Received by:	Date/Time
<i>[Signature]</i>	1/30/08 1306	FedEx		Ryan Scheel	1-31-2008 / 10:00

BEACON Report No. 2056B

PASSIVE SOIL-GAS SURVEY EAST 67TH STREET GROUNDWATER PLUME ODESSA, TX

Prepared for

**EA Engineering Science & Technology
405 S Highway 121
Building C, Suite 100
Lewisville, TX 75067**

by



**Beacon Environmental Services, Inc.
323 Williams Street
Suite D
Bel Air, MD 21014**

February 15, 2010

Applying Results from Soil-Gas Surveys

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source. The vapor-phase is merely a fractional trace of the source, so, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

The critical fact is that, whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling at one or two points that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating the required ratio. Once that ratio is established, it can be used in conjunction with the soil-gas measurements (regardless of the units adopted) to estimate subsurface contaminant concentrations across the survey field. It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have significant impact on soil-gas measurements at those locations.

When passive soil-gas surveys are handled in this way, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent.

BEACON Report Number: 2056

**Passive Soil-Gas Survey
East 67th Street Groundwater Plume
Odessa, TX**

This Passive Soil-Gas Survey Report has been prepared for EA Engineering Science & Technology (EA) by Beacon Environmental Services, Inc. (BEACON) in accordance with the terms of Subcontract Task Order FIDIQ08073, dated March 3, 2008. BEACON's principal technical contact at EA for this project has been Mr. Timothy Startz.

An initial passive soil-gas survey was conducted at the East 67th Street Groundwater Plume site in January 2008 (BEACON Report No. 2056, dated February 19, 2008). This report provides specifics on a supplemental survey completed in March 2008; however, passive soil-gas data from the January 2008 survey is included in the compound distribution maps.

1. Objectives

Soil-gas samples were collected to determine the presence, identity, and relative strength of targeted contaminants in ground water at the East 67th Street Groundwater Plume site. Survey results will be used to identify source areas and the extent of contamination previously identified in samples collected at the site.

2. Target Compounds

This survey targeted the 40 compounds listed in **Table 1**, which supplies the resulting laboratory data in nanograms (ng) of specific compound per cartridge.

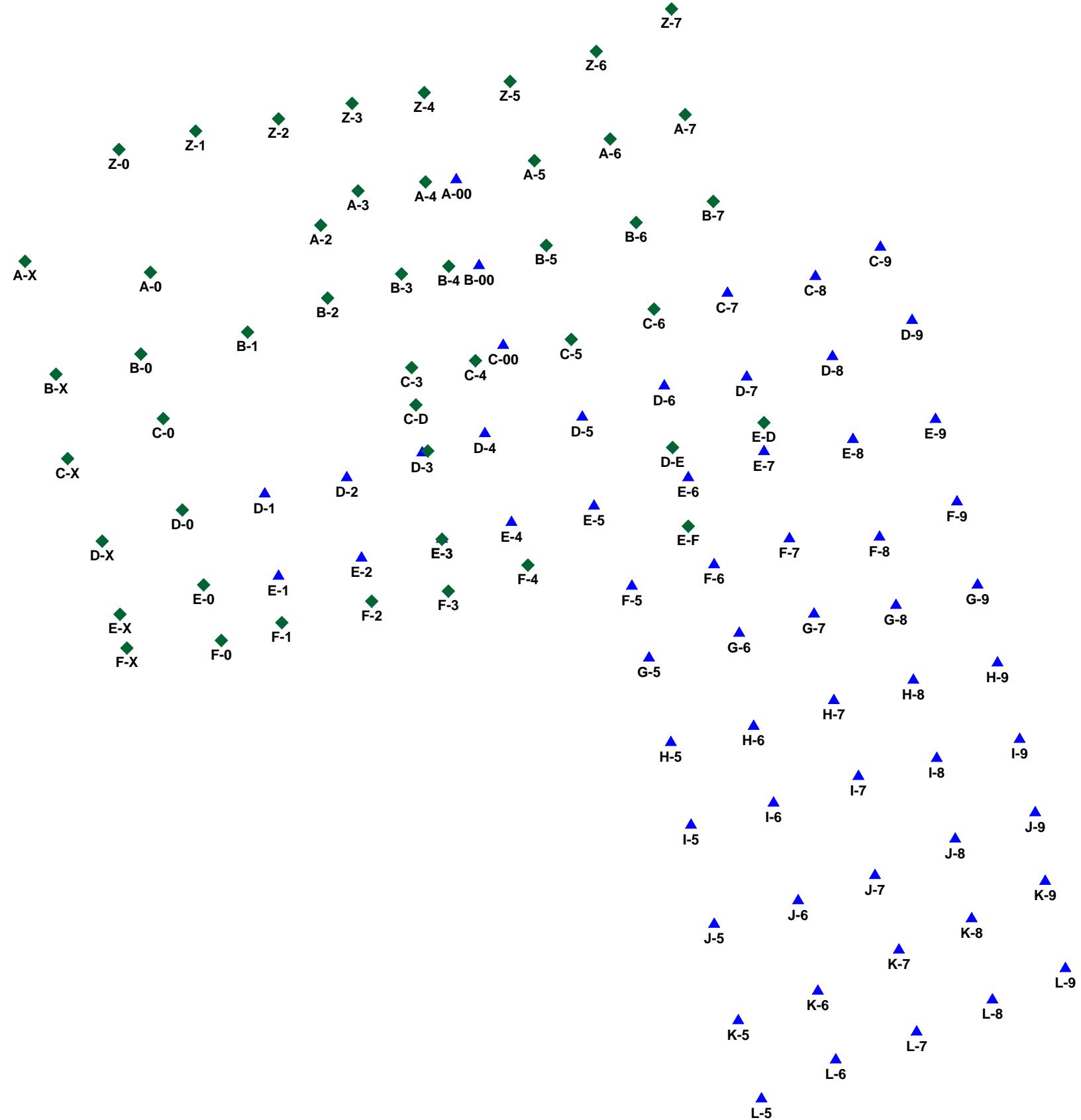
3. Survey Description

No. of Field Samples:	48
No. of Duplicate Field Samples:	4
No. of Trip Blanks:	<u>3</u>
Total No. of Samples:	55

Field sample locations are shown on **Figure 1**.

4. Field Work

EA was provided a BESURE Sample Collection Kit™ with the equipment needed to conduct a 48-point passive soil-gas survey; samplers were collected in March 2008. **Attachment 1** describes the field procedures used. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 2**).



G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)

B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)

Scale in Feet



Figure 1
Passive Soil-Gas Survey
Sample Locations

5. Analysis and Reporting Dates

BEACON's laboratory received 55 samples for analysis on March 20, 2008. Adsorbent cartridges from the passive samplers were thermally desorbed, then analyzed using gas chromatography/mass spectrometry (GC/MS) equipment, in accordance with EPA Method 8260B (Modified), as described in **Attachment 3**. BEACON's laboratory analyzed each cartridge for the targeted compounds; analyses were completed on March 27, 2008. Following a laboratory review, results were provided to EA on March 27, 2008. On February 5, 2010, EA authorized BEACON to issue a final report.

6. Report Notes and Quality Assurance/Quality Control Factors

Table 1 provides survey results in nanograms per cartridge by sample-point number and compound name. The quantification limit (<25 ng) represents a baseline above which results exceed laboratory-determined limits of precision and accuracy.

Data Compatibility. It is important to note that when sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are often significantly higher than the concentrations would be if the surfacing were not present. Thus, a reading taken below or near an impermeable surface is much higher than it would be in the absence of such a cap. Therefore, the sample location conditions should be evaluated when comparing results between locations.

The **Chain-of-Custody** form, which was shipped with the samples for this survey, is supplied as **Attachment 4**.

Laboratory QA/QC procedures included standards, surrogates, and blanks appropriate to EPA Method 8260 (Modified). Field work, analyses, and reporting were done in accordance with BEACON's Quality Assurance Program Plan.

QA/QC Contaminant Corrections. Following EPA guidelines, laboratory data are not corrected for method blank or trip blank sample contamination values; any contamination detected on QA/QC samples would be reported in **Table 1**.

Laboratory method blanks are run each day with project samples to identify contamination present in the laboratory. If contamination is detected on a method blank, measurements of identical compounds on samples analyzed the same day are considered to be suspect and are flagged in the laboratory report. The laboratory method blanks analyzed in connection with the present samples revealed no contamination.

The **trip blank** is a sampling cartridge prepared, transported, and analyzed with other samples but intentionally not exposed. Any target compounds identified on the trip blanks are reported in the laboratory data. The analyses of the trip blanks (labeled Trip-4 through Trip-6 in **Table 1**) reported none of the targeted compounds, indicating that the survey site itself is the source of detected contamination.

Duplicates. BEACON's passive soil-gas samplers are prepared with two sets of cartridges for subsequent duplicate or confirmatory sample analysis. At EA's request, duplicate analysis was performed for samples A0, B5, E0, and F4. The duplicate samples were designated with "DUP" following the sample number (*e.g.*, A0 DUP). Because of finite differences between the cartridges, and the random nature of diffusive particle movement, comparisons between duplicates and primary samples should be made on a qualitative basis, as quantitative results may be subject to random distortions. However, when comparing quantitative results, a duplicate correspondence should be considered when the relative percent difference (RPD) between the two samples is less than or equal to 100%. Also, for the purpose of calculating correspondences, all non-detections should be assigned, as a baseline value, the quantitation level for the specific contaminant. Based on these assumptions, a 100% correlation was found between the duplicate samples and their base samples.

Survey findings are relative exclusively to this project and should not routinely be compared with results of other BEACON Surveys. *To establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those detections representing significant subsurface contamination, BEACON recommends the guidelines on the inside front cover of this report.*

At the request of EA, the following compound distribution maps have been provided:

Figure 2 — cis-1,2-Dichloroethene

Figure 3 — Trichloroethene

Figure 4 — Tetrachloroethene

Figure 5 — Total Trimethylbenzenes

Figure 6 — Total Petroleum Hydrocarbons (TPH), C₅-C₉

The following **Attachments** are included:

- 1- Field Procedures
- 2- Field Deployment Report
- 3- Laboratory Procedures
- 4- Chain-of-Custody Form

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	Meth_Blk	Trip-4	A0	A0 DUP	A2	A3
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032503	08032504	08032505	08032506	08032507	08032508
Received Date:		3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/25/2008	3/25/2008	3/25/2008	3/25/2008	3/25/2008	3/25/2008
Analysis Time:	18:18	18:49	19:20	19:51	20:22	20:52
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	27	<25
1,1-Dichloroethene	<25	<25	<25	<25	52	<25
trans-1,2-Dichloroethene	<25	<25	108	109	102	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	42	29
cis-1,2-Dichloroethene	<25	<25	1,536	1,597	2,085	247
Chloroform	<25	<25	239	237	398	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	38	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	728	446	9,830	263
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	12,452	7,607	12,522	624
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	1,501	<25
p & m-Xylene	<25	<25	<25	<25	1,057	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	39	29	3,212	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	115	84	711	<25
1,3,5-Trimethylbenzene	<25	<25	1,491	1,103	2,280	<25
1,2,4-Trimethylbenzene	<25	<25	170	145	2,453	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	1,999	2,199	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	705	736	1,454	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	21,166	17,795	2,964	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	26,195	25,518	6,399	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 1 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	A4	A5	A6	A7	AX	B0
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032509	08032510	08032511	08032512	08032513	08032514
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/25/2008	3/25/2008	3/25/2008	3/25/2008	3/25/2008	3/25/2008
Analysis Time:	21:23	21:54	22:25	22:56	23:26	23:57
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	37	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	64	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	63
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	93	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	441	171	179	945	60	649
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 2 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1	B2	B3	B4	B5	B5 DUP
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032515	08032516	08032517	08032518	08032519	08032520
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	12:28	12:59	1:29	2:00	2:31	3:02
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	26	114	<25	<25	<25	<25
1,1-Dichloroethene	<25	53	<25	<25	<25	<25
trans-1,2-Dichloroethene	38	<25	207	91	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	338	980	816	184	<25	<25
cis-1,2-Dichloroethene	249	2,059	12,463	825	<25	<25
Chloroform	1,731	7,532	313	51	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	33	29	26	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	29	45	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	28
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethylene	<25	6,058	2,571	320	<25	40
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	41	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethylene	276	2,037	2,994	1,155	174	347
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	30	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	52	66	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	119	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	29	32	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	11,002	2,859	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 3 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B6	B7	BX	Trip-5	C0	C3
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032521	08032522	08032523	08032524	08032525	08032604
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	3:33	4:04	4:34	5:05	5:36	19:02
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	26
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	918
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	108	1,370
cis-1,2-Dichloroethene	<25	<25	<25	<25	161	26,284
Chloroform	153	<25	42	<25	1,235	1,209
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	29	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	29	<25	<25	<25	<25	6,065
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	35	<25	56	70
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	818	300	98	<25	371	3,405
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	28	37
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	27	25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	32	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 4 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	C4	C5	C6	CD	CX	D0
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032527	08032528	08032529	08032530	08032531	08032532
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	6:36	7:07	7:38	8:09	8:39	9:10
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	33	<25	<25	161	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	177	<25	<25	846	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	342	<25	<25	792	<25	41
cis-1,2-Dichloroethene	2,588	45	<25	21,118	<25	635
Chloroform	166	<25	<25	1,507	78	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	26
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethylene	2,492	78	79	4,358	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethylene	1,617	330	1,295	2,935	75	80
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 5 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	D3	DE	DX	E0	E0 DUP	E3
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032533	08032534	08032535	08032536	08032537	08032538
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	9:41	10:12	10:43	11:14	11:45	12:16
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	29	<25	<25	26	26	113
1,1-Dichloroethene	<25	<25	<25	<25	<25	67
trans-1,2-Dichloroethene	286	<25	<25	120	155	337
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	485	<25	<25	89	143	502
cis-1,2-Dichloroethene	5,326	<25	<25	2,109	1,394	11,582
Chloroform	464	<25	177	25	<25	881
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	30	25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	631	<25	<25	34	<25	378
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	33	<25	<25	<25	<25	368
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	2,847	427	94	285	143	5,079
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	32
p & m-Xylene	<25	<25	<25	<25	<25	59
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	61
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	87
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 6 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	ED	EF	EX	F0	F1	F2
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032539	08032540	08032541	08032542	08032543	08032544
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	12:47	13:18	13:48	14:19	14:51	15:21
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	64	141
1,1-Dichloroethene	<25	<25	<25	<25	<25	44
trans-1,2-Dichloroethene	<25	<25	<25	<25	333	416
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	40	48	268	279
cis-1,2-Dichloroethene	<25	<25	148	550	6,203	7,987
Chloroform	<25	<25	910	<25	1,707	212
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	29	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	86	159
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	178	399	193	127	557	1,331
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 7 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	F3	Trip-6	Meth_Blk	F4	F4 DUP	FX
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032545	08032546	08032603	08032605	08032606	08032607
Received Date:	3/20/2008	3/20/2008		3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	15:52	16:23	18:31	19:33	20:04	20:35
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	50	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	84	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	68	66	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	221	<25	<25	139	108	33
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 8 of 10

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	Z0	Z1	Z2	Z3	Z4	Z5
Project Number:	2056B	2056B	2056B	2056B	2056B	2056B
Lab File ID:	08032608	08032609	08032610	08032611	08032612	08032613
Received Date:	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008	3/26/2008
Analysis Time:	21:05	21:36	22:07	22:38	23:09	23:40
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	35	<25	<25	<25
1,1-Dichloroethene	62	189	107	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	70	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	52	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	69	352	217	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25	<25	<25	<25
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	25	58	868	120	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	30	<25	<25	48	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	1,912	2,894	7,820	771	344	358
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	82	39	33	50	<25	<25
p & m-Xylene	96	51	40	76	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	66	28	<25	69	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25
TPH C ₅ -C ₉	3,811	4,142	4,756	2,835	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Page 9 of 10

Table 1

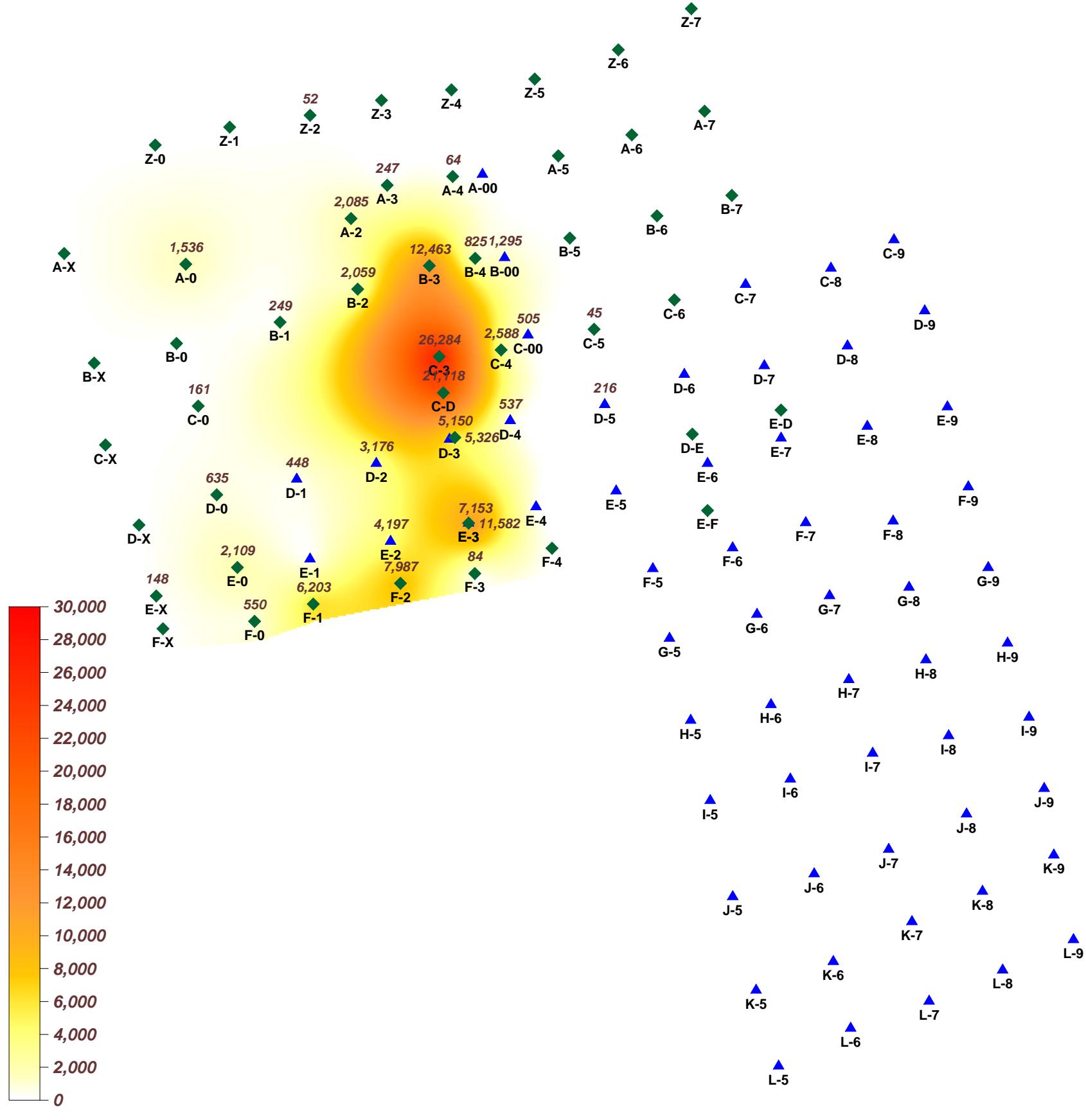
Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	Z6	Z7	ZX
Project Number:	2056B	2056B	2056B
Lab File ID:	08032614	08032615	08032616
Received Date:	3/20/2008	3/20/2008	3/20/2008
Analysis Date:	3/27/2008	3/27/2008	3/27/2008
Analysis Time:	12:10	12:41	1:12
Units:	ng	ng	ng
COMPOUNDS			
Vinyl Chloride	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25
Methyl-t-butyl ether	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25
Chloroform	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25
Carbon Tetrachloride	<25	<25	<25
Benzene	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25
Trichloroethene	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25
Toluene	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25
Tetrachloroethene	328	444	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25
Chlorobenzene	<25	<25	<25
Ethylbenzene	<25	<25	<25
p & m-Xylene	<25	<25	<25
Bromoform	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25
o-Xylene	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25
Isopropylbenzene	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25
n-Butylbenzene	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25
Naphthalene	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25
TPH C ₅ -C ₉	<2,500	<2,500	<2,500
TPH C ₁₀ -C ₁₄	<2,500	<2,500	<2,500

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

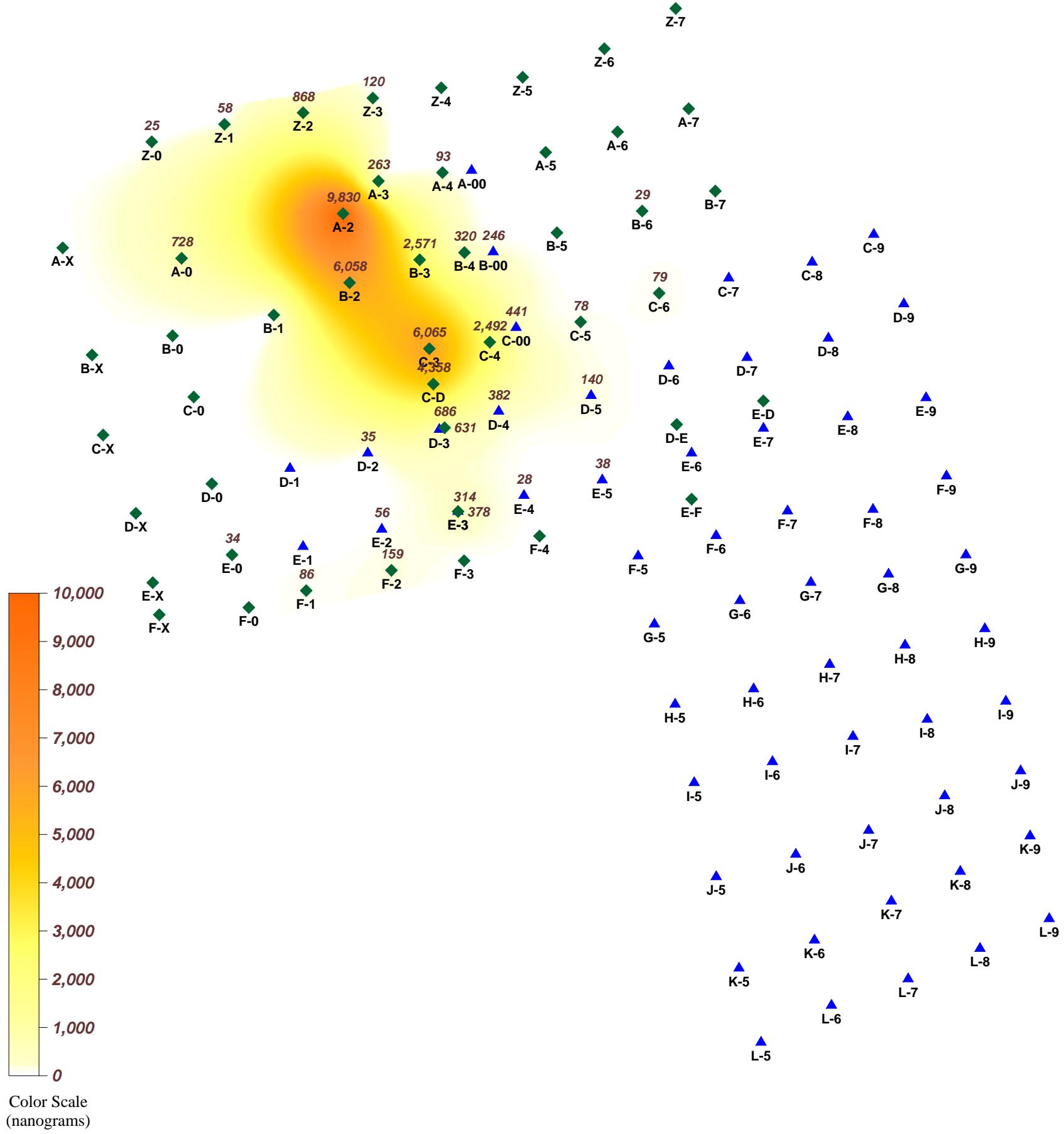
Page 10 of 10



NOTE: At locations D-3 and E-3, where samples were collected in both January and March, the value posted to the right of the sample is from the March survey. At those locations, the higher of the two reported values was used to generate the contours.

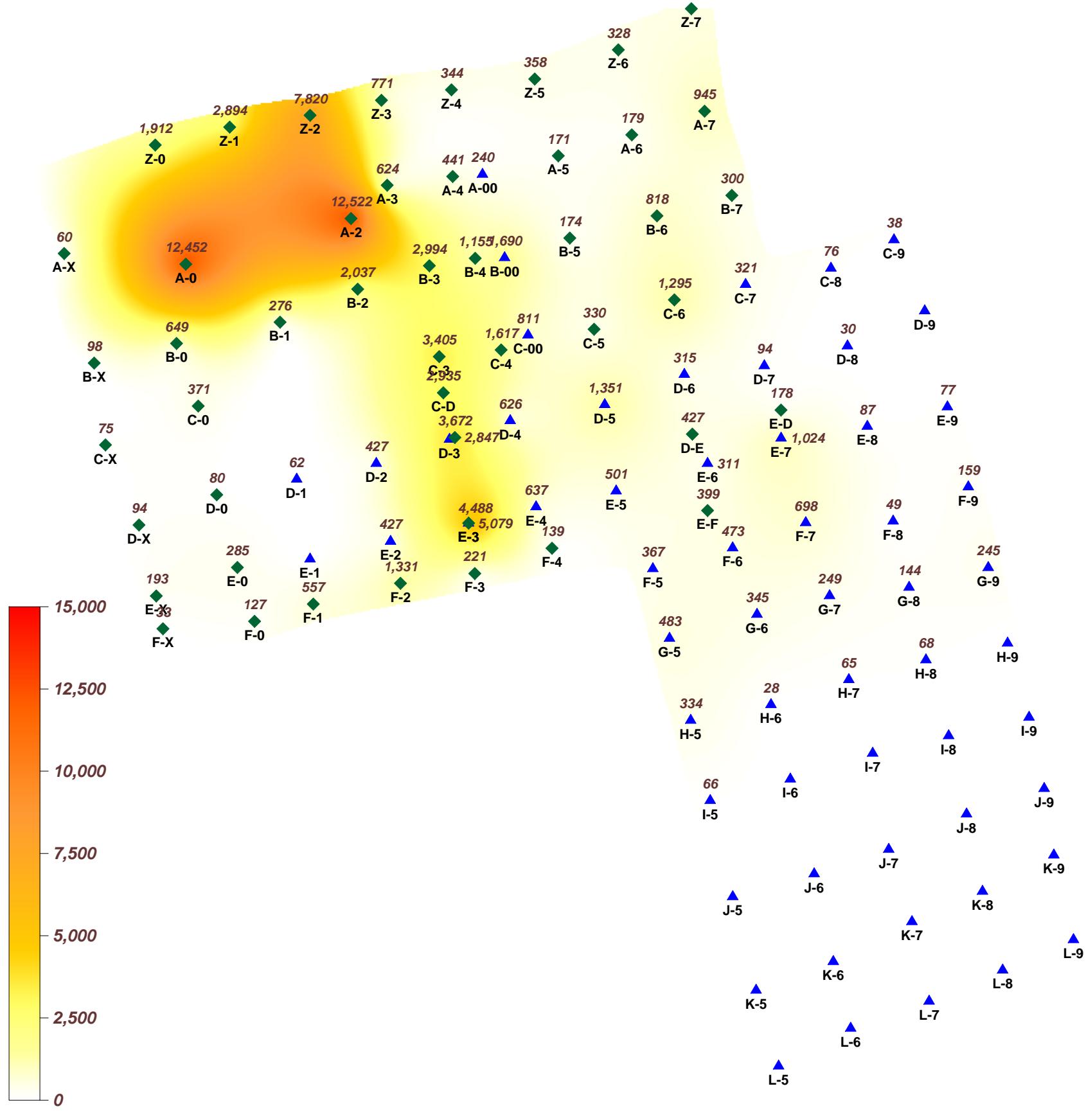
- 1,000 cis-1,2-DICHLOROETHENE (nanograms)
- G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)
- B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)

Figure 2
Passive Soil-Gas Survey
cis-1,2-Dichloroethene



NOTE: At locations D-3 and E-3, where samples were collected in both January and March, the value posted to the right of the sample is from the March survey. At those locations, the higher of the two reported values was used to generate the contours.

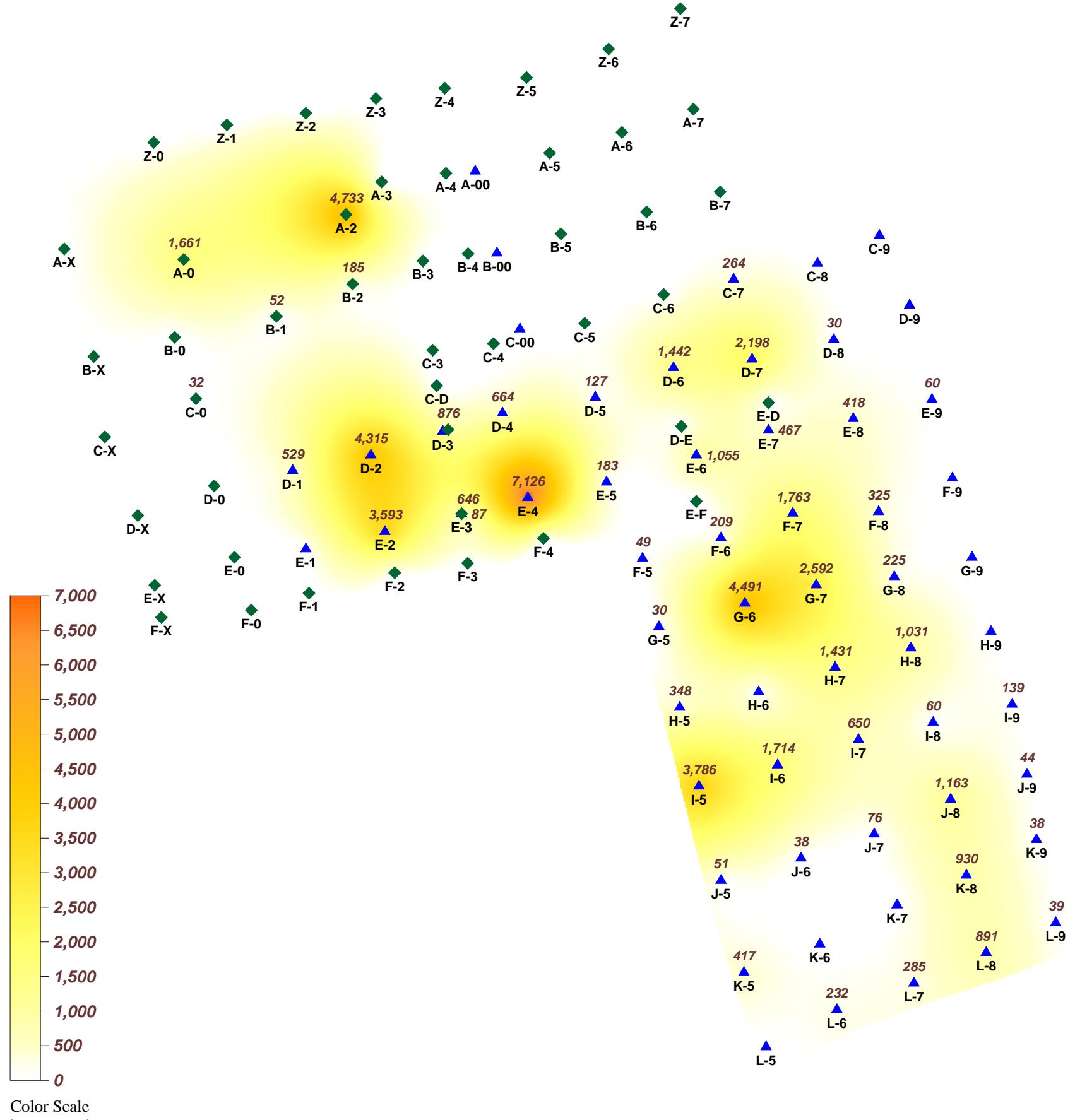
- 1,000 TRICHLOROETHENE (nanograms)
- G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)
- B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)



NOTE: At locations D-3 and E-3, where samples were collected in both January and March, the value posted to the right of the sample is from the March survey. At those locations, the higher of the two reported values was used to generate the contours.

- 1,000 TETRACHLOROETHENE (nanograms)
- G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)
- B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)

Figure 4
Passive Soil-Gas Survey
Tetrachloroethene



NOTE: At locations D-3 and E-3, where samples were collected in both January and March, the value posted to the right of the sample is from the March survey. At those locations, the higher of the two reported values was used to generate the contours.

1,000 TOTAL TRIMETHYLBENZENES (nanograms)

G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)

B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)

Scale in Feet

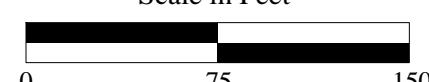
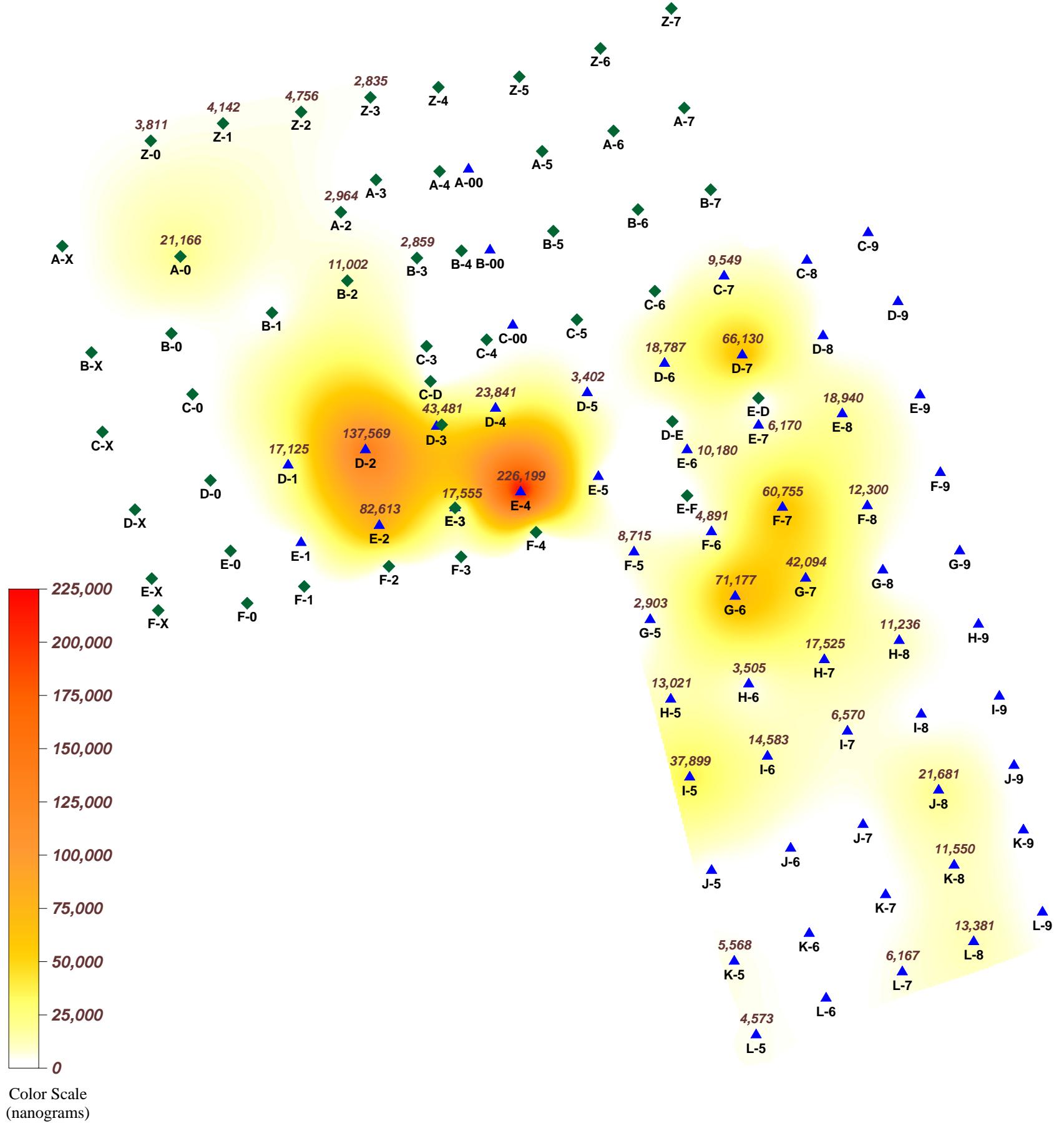


Figure 5
Passive Soil-Gas Survey
Total Trimethylbenzenes

East 67th Street Groundwater Plume
Odessa, TX



NOTE: At locations D-3 and E-3, where samples were collected in both January and March, the value posted to the right of the sample is from the March survey. At those locations, the higher of the two reported values was used to generate the contours.

1,000 TPH, C5-C9 (nanograms)

G-7 PASSIVE SOIL-GAS SAMPLE LOCATION (January 2008)

B-7 PASSIVE SOIL-GAS SAMPLE LOCATION (March 2008)

Attachments

Attachment 1

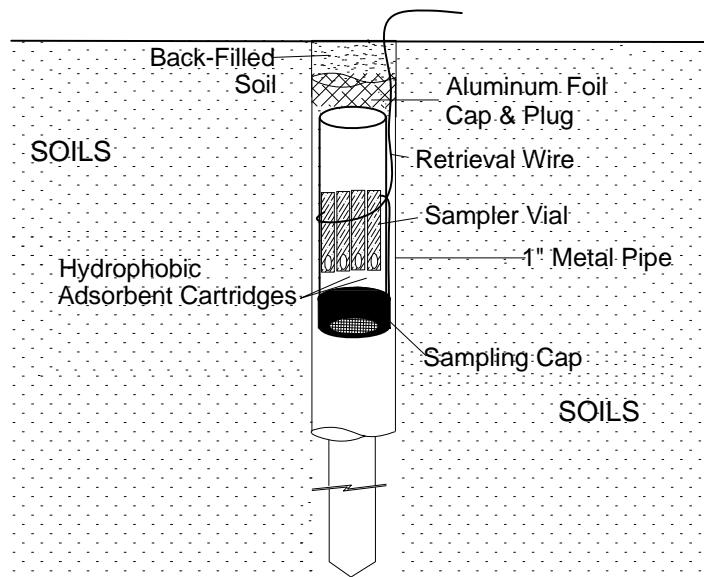
FIELD PROCEDURES FOR PASSIVE SOIL-GAS SURVEYS

The following field procedures are routinely used during a BEACON Passive Soil-Gas Survey. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

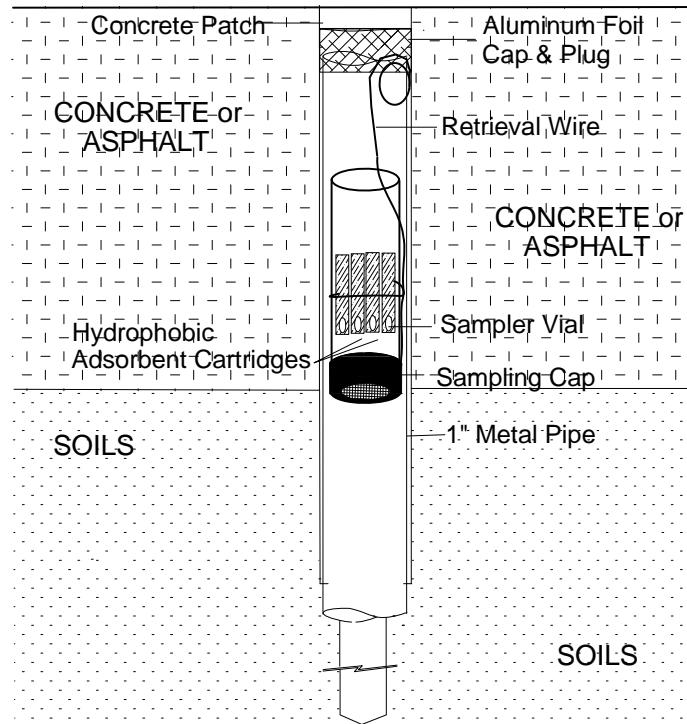
- A. Field personnel carry a BESURE Sample Collection Kit™ and support equipment to the site and deploy the passive samplers in a prearranged survey pattern. A passive sampler consists of a glass vial containing hydrophobic adsorbent cartridges with a length of wire attached to the vial for retrieval. Although samplers require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Sampler emplacement generally takes less than two minutes.
- B. At each survey point a field technician clears vegetation as needed and, using a slide hammer with a ½" diameter probe or a hammer drill with a ½" diameter bit, creates a hole three-feet deep. The technician then uses a hammer and a ¾" diameter pointed metal stake to widen the top four inches of the hole. [Note: For locations covered with asphalt, concrete, or gravel surfacing, the field technician first drills a 1"- to 1½"-diameter hole through the surfacing to the soils beneath and the hole is sleeved with a 1"-diameter . metal sleeve.]
- C. The technician then removes the solid plastic cap from a sampler and replaces it with a Sampling Cap (a plastic cap with a hole covered by screen meshing). The technician inserts the sampler, with the Sampling Cap end facing down, into the hole (see **attached figure**). The sampler is then covered with either local soils for uncapped locations or, for capped locations, aluminum foil and a concrete patch. The sampler's location, time and date of emplacement, and other relevant information are recorded on the Field Deployment Form.
- D. One or more trip blanks are included as part of the quality-control procedures.
- E. Once all the samplers have been deployed, field personnel schedule sampler recovery and depart, taking all other equipment and materials with them.
- F. Field personnel retrieve the samplers at the end of the exposure period. At each location, a field technician withdraws the sampler from its hole, removes the retrieval wire, and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.
- G. Sampling holes are refilled with soil, sand, or other suitable material. If samplers have been installed through asphalt or concrete, the hole is filled to grade with a plug of cold patch or cement.
- H. Following retrieval, field personnel ship or transport the passive samplers to BEACON's laboratory.

BEACON'S PASSIVE SOIL-GAS SAMPLER

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 2

Field Deployment Report

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2056B
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	Garnett Stanbury

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)		
	Time Emplaced	Time Retrieved			
ZX	0834	1230	10"	3250214.08nN	505407.38 nE
AX	0842	1232	18"	3250 ²⁰¹ 17 .00	505413.65
BX	0844	1233	18"	3250180.70	505417.08
CX	0845	1235	18"	3250166.68	505419.18
DX	0848	1152	18"	3250151.21	505423.86
EX	0851	1129	18"	3250137.80	505428.49
FX	0852	1126	18"	3250130.83	505429.08
F0	0853	1128	18"	3250131.93	505442.96
F1	0855	1136	18"	3250135.13	505453.83
F2	0857	1138	18"	3250139.00	505470.00
F3	0901	1139	18"	3250140.80	505483.75
E3	0902	1141	18"	3250149.79	505483.80
F4	0904	1145	18"	3250145.50	505498.07
D3	0908	1143	10"	3250166.00	505480.09
D0	0911	1133	10"	3250155.40	505435.95

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	2056B
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX



323 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510

Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Collected By:	Currett Steinbring

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)		
	Time Emplaced	Time Retrieved			
C4	0923	1148	18"	3250183.65 mN	505491.73 m E
B4	0925	1149	18"	3250200.63	505486.55
A3	0930	1212	18"	3250213.00	505471.00
A4	0932	1208	18"	3250216.42	505482.50
Z0	0936	1228	12"	3250220.20	505424.56
Z1	0939	1225	12"	3250223.52 But the 4 holes all out	505438.35
Z2	0940	1219	12"	3250225.72	505453.25
Z3	0948	1217	12"	3250228.57	505466.47
Z4	0950	1215	12"	3250230.45	505479.44
Z5	0957	1340	12"	3250232.42	505494.86
Z6	0959	1343	12"	3250237.85	505510.37
Z7	1001	1344	12"	3250245.46	505523.88
A7	1005	1346	12"	3250217.70	505531.60 X GPS 10' South of sampling point
B7	1007	1348	6"	3250210.87	505531.40
A6		1350	8"	3250222.09	505512.87

**PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT**

Project Information		Client Information	
Beacon Project No.:	2056B	Company Name:	EA Engineering Science & Tech.
Site Name:	E. 67 th St. Groundwater Plume	Office Location:	Lewisville, TX
Site Location:	Odessa, TX	Samples Collected By:	Garnett Steinbring

FIELD SAMPLE ID	Date Emplaced	Date Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)		
	Time Emplaced	Time Retrieved			
B6	1012	1351	8"	3250207.09	N 505517.52 m E
A5	1015	1352	12"	3250218.21	505499.24
B5	1019	1353	10"	3250202.97	505501.37
C5	1021	1355	12"	3250180.06	505505.87
EF	1026	1359	18"	3250152.49	505526.90
DE	1029	1400	10"	3250166.63	505524.09
ED	1031	1402	18"	3250171.10	505540.51
C6	1035	1356	12"	3250191.51	505520.75
E0	1040	1131	18"	---	---
A2	1537	1210	24" 26"	3250209.26	505466.34
C0	1542	1237	18" 12"	3250170.17	505434.59
B0	1545	1239	18" 12"	3250183.44	505428.50
A0	1548	1245	18" 12"	3250198.12	505430.22
B1	1550	1203	12"	3250187.37	505447.68
B2	1553	1205	12"	3250193.50	505462.06

PASSIVE SOIL-GAS SURVEY FIELD DEPLOYMENT REPORT

Project Information		BEACON ENVIRONMENTAL SERVICES, INC. 323 Williams Street, Suite D, Bel Air, MD 21014 (800) 878-5510	Client Information
Beacon Project No.:	2056B		Company Name: EA Engineering Science & Tech.
Site Name:	E. 67 th St. Groundwater Plume		Office Location: Lewisville, TX
Site Location:	Odessa, TX		Samples Collected By: Garrett Sternbring

Attachment 3

LABORATORY PROCEDURES FOR PASSIVE SOIL-GAS SAMPLES

Following are laboratory procedures used with BEACON Passive Soil-Gas Surveys, a screening technology for expedited site investigation. After exposure, adsorbent cartridges from the passive samplers are analyzed using U.S. EPA Method 8260B as described in the Solid Waste Manual (SW-846), a capillary gas chromatographic/mass spectrometric method, modified to accommodate high temperature thermal desorption of the adsorbent cartridges. This procedure is summarized as follows:

- A. The adsorbent cartridges are loaded with internal standards and surrogates prior to loading the autosampler with the cartridges. The loaded cartridges are purged in a helium flow. Then the cartridges are thermally desorbed in a helium flow onto a focusing trap. Any analytes in the helium stream are adsorbed onto a focusing trap.
- B. Following trap focusing, the trap is thermally desorbed onto a DB-VRX 60m, 0.25 mm ID, 1.40 micron filament thickness capillary column.
- C. The GC/MS is scanned between 35 and 270 Atomic Mass Units (AMU) at 3.12 scans per second.
- D. BFB tuning criteria and the initial five-point calibration procedures are those stated in method SW846-8260B. System performance and calibration check criteria are met prior to analysis of samples. A laboratory method blank is analyzed after the daily standard to determine that the system is contaminant-free.
- E. The instrumentation used for these analyses includes:
 - Agilent 6890-5973 Gas Chromatograph/Mass Spectrometer;
 - Markes Unity thermal desorber;
 - Markes UltraA autosampler; and
 - Markes Mass Flow Controller Module.

Attachment 4

Chain-of-Custody Form

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2056B
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 2056 Target Compound List



Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Submitted By:	Garrett Stemberg
Contact Phone No.:	214 934 4275

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
ZX	2056 B	ZX	3/19	1230	69
AX	2056 B	AX		1232	
BX	2056 B	BX		1233	
CX	2056 B	CX		1235	
DX	2056 B	DX		1152	
EX	2056 B	EX		1129	
FX	2056 B	FX		1126	
FO	2056 B	FO		1128	
F1	2056 B	F1		1136	
F2	2056 B	F2		1138	
F3	2056 B	F3		1139	
E3	2056 B	E3		1141	
F4	2056 B	F4		1145	
D3	2056 B	D3		1143	
DO	2056 B	DO		1133	
C4	2056 B	C4		1148	
B4	2056 B	B4		1149	
A3	2056 B	A3		1212	
A4	2056 B	A4		1208	
Z0	2056 B	Z0		1238	

Shipment of Field Kit to Site — Custody Seal # 0528758

Intact? Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Schel	03-06-2008 / 1700	FedEx		

Shipment of Field Kit to Laboratory — Custody Seal # 0528760

Intact? Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Garrett Stemberg	3/19/08 1430	FedEx	Ryan Schel	3-20-2008 / 1215

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information		Client Information	
Beacon Project No.:	2056B	Company Name:	EA Engineering Science & Tech.
Site Name:	E. 67 th St. Groundwater Plume	Office Location:	Lewisville, TX
Site Location:	Odessa, TX	Samples Submitted By:	Garrett Stenbring
Analytical Method:	EPA Method 8260B	Contact Phone No.:	
Target Compounds:	Beacon Project Number 2056 Target Compound List		

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
Z1	2056B	Z-1	3 of the elements fallen the ground	3/19	1205
Z2	2056 B	Z2		1219	
Z3	2056 B	Z3		1217	
Z4	2056 B	Z4		1215	
Z5	2056 B	Z5		1340	
Z6	2056 B	Z6		1343	
Z7	2056 B	Z7		1344	
A7	2056 B	A7		1346	
B7	2056 B	B7		1348	
A6	2056 B	A6		1350	
B6	2056 B	B6		1351	
A5	2056 B	A5		1352	
B5	2056 B	B5		1353	
C5	2056 B	C5		1355	
EF	2056 B	EF		1359	
DE	2056 B	DE		1400	
ED	2056 B	ED		1402	
C6	2056 B	C6		1356	
EO	2056 B	EO		1131	
A2	2056 B	A2		1210	

Shipment of Field Kit to Site — Custody Seal # 0528758

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Schiel	03-06-2008 / 1700	FedEx	<i>[Signature]</i>	

Shipment of Field Kit to Laboratory — Custody Seal # 0528760

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Garrett Stenbring	3/19/08 1430	FedEx	Ryan Schiel	3-20-2008 / 1215

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2056B
Site Name:	E. 67 th St. Groundwater Plume
Site Location:	Odessa, TX
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 2056 Target Compound List



Client Information	
Company Name:	EA Engineering Science & Tech.
Office Location:	Lewisville, TX
Samples Submitted By:	Garrett Steinbring
Contact Phone No.:	

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
C0	2056B	C0		3/19	1237
B0	2056B	B0			1239
A0	2056B	A0			1245
B1	2056B	B1			1203
B2	2056B	B2			1205
C0	2056B	C0			1152
C3	2056B	C3			1155
B3	2056B	B3	liquid in vial		1157
Trip-4	2056B	Trip-4		3/20/08	1215
Trip-5	2056B	Trip-5	SAMPLES RECEIVED BUT NOT LISTED, ADDED TO CHAIN AT BEACON	3/20/08	1215
Trip-6	2056B	Trip-6		3/20/08	1215
F-4 DUP	2056B	F4 DUP	DUPLICATES REQUESTED BY GARRETT STEINBRING VIA EMAIL	3/20/08	1215
B-5 DUP	2056B	B5 DUP	- RECEIVED 3/20/2008	3/20/08	1215
E-Q DUP	2056B	E8 DUP		3/20/08	1215
A-Q DUP	2056B	A8 DUP		3/20/08	1215

Shipment of Field Kit to Site — Custody Seal # 0528758

Intact? Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Schiel	03-06-2008 / 1700	FedEx	<i>[Signature]</i>	

Shipment of Field Kit to Laboratory — Custody Seal # 0528760

Intact? Y N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Garrett Steinbring	3/19/08 1430	FedEx	Ryan Schiel	3-20-2008 / 1215